

**EPA Removal Action Cost Analysis
Potlatch/FHWA Property Line Excavation
Avery Landing Site, Avery, Idaho**

Direct Capital Costs					Reference
Item Description	Quantity	Unit	Cost/Unit	Cost	
Excavation of Overburden	1,021	c.y.	\$2.52	\$2,574	31 23 16 1030
Excavation of Contaminated Soil	5,553	c.y.	\$3.52	\$19,545	31 23 16 1030
Material Handling	6,574	c.y.	\$2.64	\$17,356	31 23 23.20 0014
Disposal of Contaminated Soil	7,607	ton	\$20	\$152,142	Vendor Quote
Transportation of Contaminated Soil	7,607	ton	\$24.50	\$186,374	Vendor Quote
Purchase & transport of additional fill	5,553	c.y.	\$7.00	\$38,868	Vendor Quote
Material Handling	6,574	c.y.	\$2.64	\$17,356	31 23 23.20 0014
Geotextile	12,780	s.f.	\$0.40	\$5,112	Estimate
Soil Placement and Compaction	6,574	c.y.	\$0.43	\$2,827	31 23 23.23 5000
Seeding	0.57	acre	\$2,022	\$1,154	Vendor Quote
Fertilizer	0.57	acre	\$595	\$339	Vendor Quote
Subtotal Direct Capital Costs (rounded to nearest \$10,000)				\$443,647	
Indirect Capital Costs					
Engineering and Design (7%)				\$31,000	
Administration (5%)				\$22,000	
Legal Fees and License/Permit Costs (5%)				\$22,000	
3rd Party Construction Oversight (5%)				\$22,000	
Subtotal Indirect Capital Costs				\$97,000	
Subtotal Capital Costs				\$540,647	
Contingency Allowance (20%)				\$108,000	
Total Alternative Cost (rounded to nearest \$10,000)				\$650,000	

Note: Mobilization, Demobilization, operation of the groundwater treatment plant, crew per diem and lodging not included.

Calculations:

Property Border Length:	355 ft	
Excavation Depth:	20 ft	
Excavation Base Width:	10 ft	
Side Slope:	1.5 :1 (H:V)	(on one side)
Average depth to Contamination:	5.5 ft	
Total Excavation Volume:	177,500 cf	

or 6,574 cy

Overburden Volume: 27,579 cf

or 1,021 cy

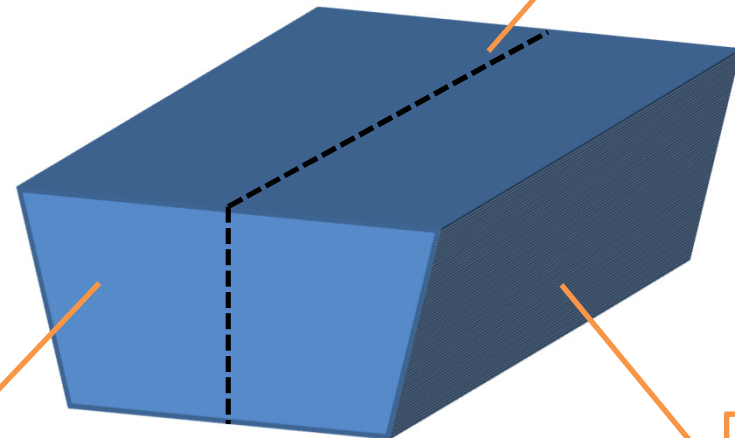
Contaminated Soil Volume: 149,921 cf

or 5,553 cy



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Potlatch Property -
Included in EPA
Calculation

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**GEI Comparative Removal Action Cost Analysis
Potlatch/FHWA Property Line Excavation
Avery Landing Site, Avery, Idaho**

Direct Capital Costs				
Item Description	Quantity	Unit	Cost/Unit	Cost
Excavation of Overburden	841	c.y.	\$2.52	\$2,119
Excavation of Contaminated Soil	143	c.y.	\$3.52	\$503
Material Handling (from excavtion)	984	c.y.	\$2.64	\$2,598
Disposal of Contaminated Soil	196	ton	\$22	\$4,294
Transportation of Contaminated Soil	196	ton	\$36.00	\$7,053
Purchase & transport of additional fill	143	c.y.	\$7.00	\$1,001
Material Handling (for backfill)	841	c.y.	\$2.64	\$2,220
Geotextile	4,700	s.f.	\$0.40	\$1,880
Soil Placement and Compaction	984	c.y.	\$0.43	\$423
Seeding	0.00	acre	\$2,022	\$0
Fertilizer	0.00	acre	\$595	\$0
Subtotal Direct Capital Costs (rounded to nearest \$10,000)				\$22,092
Indirect Capital Costs				
Engineering and Design (7%)				\$31,000
Administration (5%)				\$22,000
Legal Fees and License/Permit Costs (5%)				\$22,000
3rd Party Construction Oversight (5%)				\$22,000
Subtotal Indirect Capital Costs				\$97,000
Subtotal Capital Costs				\$119,092
Contingency Allowance (20%)				\$24,000
Total Alternative Cost (rounded to nearest \$10,000)				\$140,000

Note: Mobilization, Demobilization, operation of the groundwater treatment plant, crew per diem and lodging not included.

Generalized Calculations:

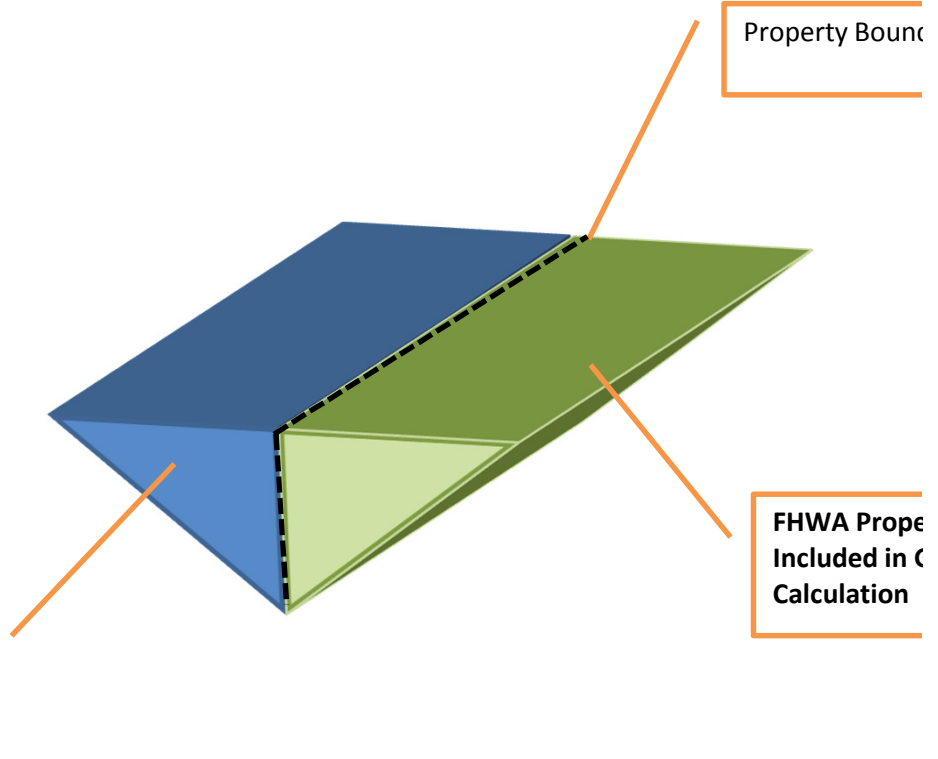
Property Border Length:	136 ft	
Excavation Depth:	17 ft	
Excavation Base Width:	0 ft	
Side Slope:	1.5 :1 (H:V)	(on one side)
Average depth to Contamination:	6 ft	
Total Excavation Volume:	29,478 cf	

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Potlatch Property -
Included in GEI
Calculation

	or	1,092 cy
Contaminated Soil Volume:		3,672 cf
	or	136 cy
Overburden Volume:		25,806 cf
	or	956 cy



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EPA Cost Analysis	
FHAW Transistion:	\$710,000
Bentcik Property Transition:	\$650,000
River Bank:	\$150,000
Total: \$1,510,000	

GEI Comparitive Cost Analysis	
FHAW Transistion:	\$180,000
Bentcik Property Transition:	\$140,000
River Bank:	\$360,000
Total: \$680,000	

**EPA Removal Action Cost Analysis
Potlatch/FHWA Property Line Excavation
Avery Landing Site, Avery, Idaho**

Direct Capital Costs			
Item Description	Quantity	Unit	Cost/Unit
Excavation of Overburden	306	c.y.	\$2.52
Excavation of Contaminated Soil	806	c.y.	\$3.52
Material Handling	1,111	c.y.	\$2.64
Disposal of Contaminated Soil	1,104	ton	\$20
Transportation of Contaminated Soil	1,104	ton	\$24.50
Purchase & transport of additional fill	806	c.y.	\$7.00
Material Handling	1,111	c.y.	\$2.64
Soil Placement and Compaction	1,111	c.y.	\$0.43
Seeding	0.03	acre	\$2,022
Fertilizer	0.03	acre	\$595
Silt Curtain	300	l.f.	\$15
Excavate and Load Riprap	278	c.y.	\$10
Haul riprap to/from stockpile	278	c.y.	\$2.64
Crushed Stone for Bank Reconstruction	92	c.y.	\$30
Geotextile	1,800	s.f.	\$0.40
Haul Riprap from off-site	278	c.y.	\$65
Place Riprap	278	c.y.	\$25
Subtotal Direct Capital Costs (rounded to nearest \$10,000)			
Indirect Capital Costs			
Engineering and Design (7%)			
Administration (5%)			
Legal Fees and License/Permit Costs (5%)			
3rd Party Construction Oversight (5%)			
Subtotal Indirect Capital Costs			
Subtotal Capital Costs			
Contingency Allowance (20%)			
Total Alternative Cost (rounded to nearest \$10,000)			
Note: Mobilization, Demobilization, operation of the groundwater treatment plant, crew per diem and lodging			

Notes:

Assumes excavation is 150 ft long, 10 feet wide, 20 feet deep. Avg depth to contaminated soil = 5.5 ft. BGS

Riprap volume = 10'X5'X150'

Cost	Reference
\$770	31 23 16 1030
\$2,836	31 23 16 1030
\$2,933	31 23 23.20 0014
\$22,072	Vendor Quote
\$27,038	Vendor Quote
\$5,639	Vendor Quote
\$2,933	31 23 23.20 0014
\$478	31 23 23.23 5000
\$70	Vendor Quote
\$20	Vendor Quote
\$4,500	Estimate
\$2,778	31 23 23.15 6000
\$733	31 23 23.20 0014
\$2,750	Estimate
\$720	Estimate
\$18,056	31 37 13.10 0100
\$6,944	31 37 13.10 0370
\$101,271	
\$7,000	
\$5,000	
\$5,000	
\$5,000	
\$22,000	
\$123,271	
\$25,000	
\$150,000	

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Direct Capital C
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Notes:
Assumes excav

Riprap volume =

GEI Comparative Removal Action Cost Analysis
Potlatch/FHWA Property Line Excavation
Avery Landing Site, Avery, Idaho

Costs				
Description	Quantity	Unit	Cost/Unit	Cost
Overburden	3,883	c.y.	\$2.52	\$9,785
Contaminated Soil	1,839	c.y.	\$3.52	\$6,473
Excavation (for excavation)	5,722	c.y.	\$2.64	\$15,106
Contaminated Soil	2,519	ton	\$20	\$50,389
Cost of Contaminated Soil	2,519	ton	\$24.50	\$61,726
Transport of additional fill	1,839	c.y.	\$7.00	\$12,873
Excavation (for backfill)	3,883	c.y.	\$2.64	\$10,251
Grading and Compaction	5,722	c.y.	\$0.43	\$2,460
	0.00	acre	\$2,022	\$0
	0.00	acre	\$595	\$0
	150	l.f.	\$15	\$2,250
Load Riprap	2,047	c.y.	\$10	\$20,470
Storm stockpile	2,047	c.y.	\$2.64	\$5,404
Storm Bank Reconstruction	600	c.y.	\$30	\$18,000
	21,900	s.f.	\$0.40	\$8,760
Off-site	0	c.y.	\$65	\$0
	2,047	c.y.	\$25	\$51,175
Capital Costs (rounded to nearest \$10,000)				\$275,123
Costs				
Design (7%)				\$7,000
Construction (5%)				\$5,000
License/Permit Costs (5%)				\$5,000
Construction Oversight (5%)				\$5,000
Total Capital Costs				\$22,000
Construction Costs				\$297,123
Contingency (20%)				\$59,000
Estimated Total Cost (rounded to nearest \$10,000)				\$360,000

on, Demobilization, operation of the groundwater treatment plant, crew per diem and lodging not included.

ation is 150 ft long, 10 feet wide, 20 feet deep. Avg depth to contaminated soil = 5.5 ft. BGS.

: 10'X5'X150'

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**EPA Removal Action Cost Analysis
Potlatch/FHWA Property Line Excavation
Avery Landing Site, Avery, Idaho**

Direct Capital Costs			
Item Description	Quantity	Unit	Cost/Unit
Excavation of Overburden	4,277	c.y.	\$2.52
Excavation of Contaminated Soil	5,797	c.y.	\$3.52
Material Handling	10,074	c.y.	\$2.64
Disposal of Contaminated Soil	7,942	ton	\$20
Transportation of Contaminated Soil	7,942	ton	\$24.50
Purchase & transport of additional fill	5,797	c.y.	\$7.00
Material Handling	10,074	c.y.	\$2.64
Geotextile	12,259	s.f.	\$0.40
Soil Placement and Compaction	10,074	c.y.	\$0.43
Seeding	0.55	acre	\$2,022
Fertilizer	0.55	acre	\$595
Subtotal Direct Capital Costs (rounded to nearest \$10,000)			
Indirect Capital Costs			
Engineering and Design (7%)			
Administration (5%)			
Legal Fees and License/Permit Costs (5%)			
3rd Party Construction Oversight (5%)			
Subtotal Indirect Capital Costs			
Subtotal Capital Costs			
Contingency Allowance (20%)			
Total Alternative Cost (rounded to nearest \$10,000)			
Note: Mobilization, Demobilization, operation of the groundwater treatment plant, crew per diem and lodging			

Calculations:

Property Border Length: 340 ft
Excavation Depth: 20 ft
Excavation Base Width: 10 ft
Side Slope: 1.5 :1 (H:V) (on each side)
Total Excavation Volume: 272,000 cf
or 10,074 cy

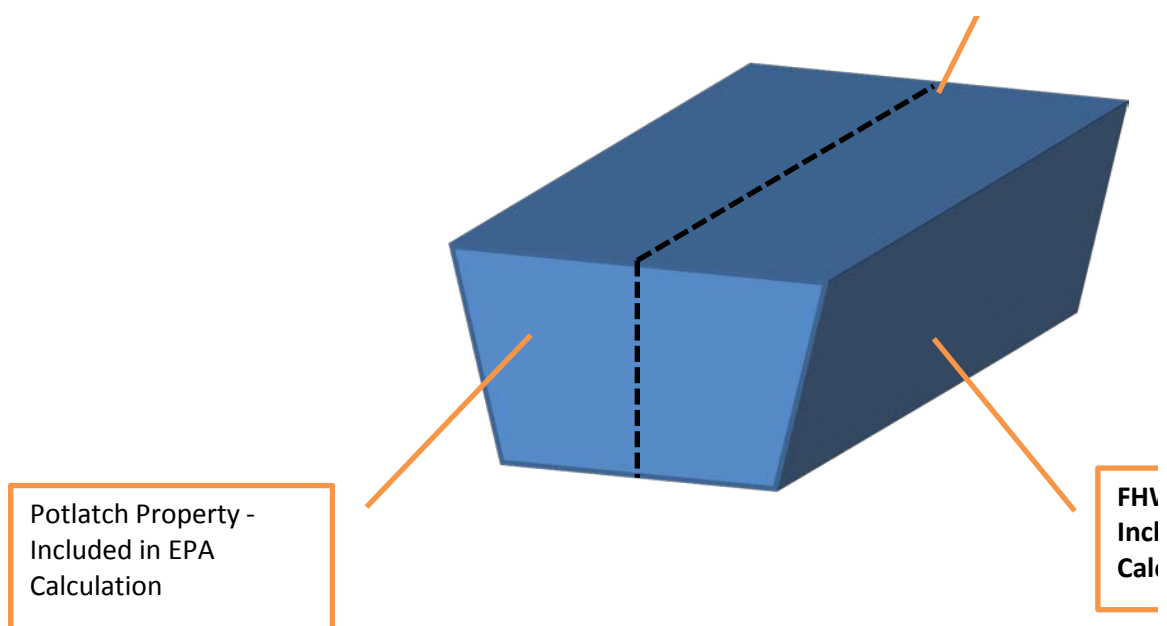
Average Depth to Contamination: 5.5 ft
Contaminated Soil Volume: 156,528 cf
5,797 cy

Overburden Volume: 115,473 cf
or 4,277 cy

Contaminated Soil Volume: 156,528 cf
or 5,797 cy

36.05551275

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Cost	Reference
\$10,777	31 23 16 1030
\$20,407	31 23 16 1030
\$26,596	31 23 23.20 0014
\$158,846	Vendor Quote
\$194,587	Vendor Quote
\$40,581	Vendor Quote
\$26,596	31 23 23.20 0014
\$4,904	Estimate
\$4,332	31 23 23.23 5000
\$1,105	Vendor Quote
\$325	Vendor Quote
\$489,055	
\$34,000	
\$24,000	
\$24,000	
\$24,000	
\$106,000	
\$595,055	
\$119,000	
\$710,000	

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Direct Capital C
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GEI Comparative Removal Action Cost Analysis
Potlatch/FHWA Property Line Excavation
Avery Landing Site, Avery, Idaho

Costs				
Description	Quantity	Unit	Cost/Unit	Cost
Overburden	1,873	c.y.	\$2.52	\$4,720
Contaminated Soil	246	c.y.	\$3.52	\$866
Soil (for excavation)	2,119	c.y.	\$2.64	\$5,594
Contaminated Soil	336.87	ton	\$22	\$7,384
Cost of Contaminated Soil	336.87	ton	\$36.00	\$12,127
Transport of additional fill	246	c.y.	\$7.00	\$1,721
Soil (for backfill)	1,873	c.y.	\$2.64	\$4,945
	10,100	s.f.	\$0.40	\$4,040
Land Compaction	2,119	c.y.	\$0.43	\$911
	0.00	acre	\$2,022	\$0
	0.00	acre	\$595	\$0
Capital Costs (rounded to nearest \$10,000)				\$42,308
Costs				
Design (7%)				\$34,000
5%)				\$24,000
License/Permit Costs (5%)				\$24,000
Construction Oversight (5%)				\$24,000
Total Capital Costs				\$106,000
Costs				\$148,308
Contingency (20%)				\$30,000
Final Cost (rounded to nearest \$10,000)				\$180,000

on, Demobilization, operation of the groundwater treatment plant, crew per diem and lodging not included.

Calculations:

Property Border Length: 275 ft
Excavation Depth: 17 ft
Excavation Base Width: 0 ft
Side Slope: 1.5 :1 (H:V) (one side)
Total Excavation Volume: 59,606 cf
or 2,208 cy

Average Depth to Contamination: 6 ft
Contaminated Soil Volume: 7,425 cf
or 275 cy

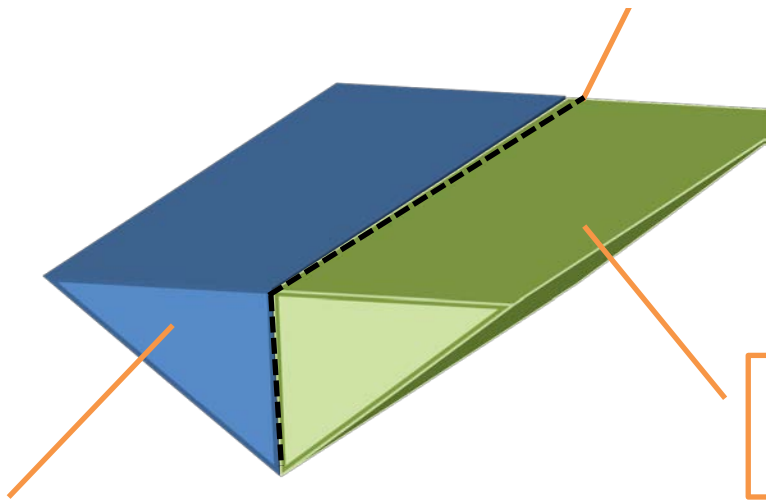
Overburden Volume: 52,181 cf
or 1,933 cy

Contaminated Soil Volume: 7,425 cf
or 275 cy

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Potlatch Property -
Included in GEI
Calculation





**FHWA Property - Not
Included in GEI
Calculation**